

PORTABLE COMPUTER HAVING SPLIT KEYBOARD AND PIVOTAL DISPLAY SCREEN HALVES

CROSS REFERENCE TO RELATED APPLICATION

The present invention is based on Provisional application number 60/031,135, filed on Nov. 18, 1996.

BACKGROUND OF THE INVENTION

The present invention is directed to a keyboard for use with computers or as a self-contained computer itself. The keyboard of the invention, in one use, may be used as an auxiliary keyboard that is intended to be overlaid on an existing, notebook-computer keyboard so as to provide a full-sized keyboard for a notebook computer. In another use, the same portable, foldable keyboard of the invention may be used with split screens detachably pivoted to the keyboard, with the keyboard having its own microprocessor, whereby both the keyboard with split screens may be folded and stored into a relatively small space. In still another use, the computer keyboard of the invention is provided with two independent microprocessors, where one folding half of the keyboard has a dedicated microprocessor for use as a notebook computer, while the other folding half of the keyboard has another, independent microprocessor that may be dedicated to video games, or, alternatively, to the control of a set-top converter box that allows access to the Internet via the TV cable system.

Portable, notebook computers serve the positive function of providing a portable, folding computer, which means they must be relatively small in size. This size constraint means that the integral keyboard provided with the notebook computer is, also, of small size as compared to a full-size keyboard associated with minicomputers. The smaller-size keyboards of notebook computers make it more difficult to use, decreases the speed at which one may type on it, and promotes fatigue and strain to the hands and fingers.

It is known to provide a notebook computer with a folding keyboard that when unfolded provides a full-size keyboard. Examples of such a notebook computer with a folding keyboard are disclosed in U.S. Pat. Nos. 5,267,127 and 5,278,779. However, these prior-art, folding keyboards for notebook computers are the primary, integral, dedicated, and sole keyboard of the notebook computer with which they are associated, and do not, and cannot, retrofit an existing notebook computer with a non-folding keyboard to one with a folding keyboard that opens up to a full-size keyboard. The use of split or multi-sectioned screens for a portable computer is also known; examples of such are disclosed in U.S. Pat. Nos. 5,128,662 and 5,467,102.

All of the prior-art portable and notebook computers are highly-complex, sophisticated systems, the keyboards of which are dedicated for use simply as an input device alone to the computer. It is the primary objective of the present invention to provide a computer keyboard that serves not only the function as a conventional input device, but also serves a plurality of other functions. These other functions are: An auxiliary, folding notebook keyboard that may readily and easily be retrofitted over an existing notebook computer's keyboard, in order to provide the notebook computer with a folding, full-size keyboard; a stand-alone, independent portable computer, where the keyboard has its own, dedicated microprocessor, with a folding, split-screen monitor detachable, pivotally mounted to the keyboard; a stand-alone portable computer having a second, independent

microprocessor associated with one half of the folding keyboard, whereby the second keyboard-half with its own microprocessor may be dedicatingly used for playing video games, or for controlling the set-top box converter for accessing the Internet over the TV cable system. The keyboard of the invention is readily and easily foldable into a relatively small volume, and in those uses where other parts are coupled to it, such as a split-screen monitor, and the like, the other parts are also foldable and/or readily and compactly stored long with the keyboard itself in a storage-carrying case.

SUMMARY OF THE INVENTION

It is, therefore, the primary objective of the present invention to provide a portable, folding keyboard for use with a notebook, or laptop, computer, that may also be used on its own as a portable computer, which keyboard, when used with another portable computer, will retrofit that computer to one that has a full-size keyboard.

It is another objective of the present invention to provide such a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that has its own, integral pointing device built in, so that all of the functions previously performed by the originally-provided keyboard of the notebook computer may now be performed by the retrofitting, portable, folding keyboard of the invention.

It is another objective of the present invention to provide such a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that has its own gamepad and joystick built with its own firing device, to thus provide a notebook computer with both a gamepad and joystick for playing video games.

It is, also, an objective of the present invention to provide a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that is easily stored and carried in its own carrying case.

It is an objective of the present invention to provide a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that is ergonomically correct, so that the user will no experience fatigue as readily as compared to other keyboards.

It is, also, an objective of the present invention to provide a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that is provided with fold-down supporting feet that allow the retrofitting, portable, folding keyboard to be overlaid on the existing keyboard of the notebook computer, such that the supporting feet are supported on a table top or directly on the surface of the existing keyboard of the notebook computer, if space-constraints are a problem.

It is another objective of the present invention to provide a retrofitting, portable, folding keyboard for a notebook, or laptop, computer that is provided with its own, dedicated microprocessor, whereby the keyboard itself serves as a self-contained notebook, or portable, computer.

It is yet another objective of the present invention to provide such a retrofitting, portable, folding, self-contained keyboard that is provided with two, independent, dedicated microprocessors, whereby the keyboard itself serves as a self-contained notebook, or portable, computer by means of the first microprocessor, and also serves as a dedicated video game device by means of the second microprocessor, the keyboard having its own split-screen monitor detachable pivoted thereto, in the preferred embodiment.

It is another objective of the present invention to provide such a retrofitting, portable, folding, self-contained key-